

WHAT IS CLAIMED IS:

1. An emulation processing method for a storage device that accesses storage medium defined by a first sector length unit by a command from the host defined by a second sector length unit  
5 that is shorter than the first sector length, and comprising:

a step of reading data of an address that is specified with a second sector length unit from said storage medium defined by a first sector length unit;

10 a step of rewriting said read data defined by said first sector length unit into data defined by said second sector length unit;

a step of saving said data that is read or rewritten in the first sector length unit;

a step of writing said rewritten data to the storage medium;  
and

15 a step of registering said saved data as alternate data when said writing failed.

2. The emulation processing method for a storage device of claim 1, wherein said saving step comprises a step of saving the  
20 data with the first sector length unit to the storage medium.

3. The emulation processing method for a storage device of claim 1 further comprising:

25 a step of determining whether or not the corresponding all data with said first sector length unit is rewritten from a target address with said second sector length unit of write request;

a step of executing said save step when all of the data are

not rewritten; and

a step of registering to the storage medium as alternate data, said data with said second sector length unit of a write request when said writing failed, when all of the data is rewritten.

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4. The emulation processing method for a storage device of claim 1, wherein said reading step comprises a step of staging said data with the first sector length unit to a cache area of a buffer memory from the storage medium.

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5. The emulation processing method for a storage device of claim 1, wherein said registering step comprises a step of setting a valid flag to said save data.

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6. The emulation processing method for a storage device of claim 1, further comprising;

a step of judging whether or not said saving step is success; and

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a step of performing said rewriting step when said saving step is success.

7. The emulation processing method for a storage device of claim 1, wherein said reading step comprises a step of staging said data with the first sector length unit to a cache area of a buffer memory from the storage medium when receive a write command.

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8. The emulation processing method for a storage device of

claim 1, further comprising;

a step of searching a save area when receive a write command from a host; and

5 a step of notifying that said saving step is not performed when said save area is not found by said searching step.

9. A storage device that accesses storage medium defined by a first sector length unit by a command from the host defined by a second sector length unit that is shorter than the first sector  
10 length, and comprising:

a buffer memory; and

a control circuit for reading data of the address specified with a second sector length unit from said storage medium to said buffer memory with a first sector length unit, and then rewriting said read data with the first sector length unit to data with the second sector length unit and writing said rewritten data to said storage medium; and wherein

20 said control circuit saves said data that is read or rewritten with the first sector length unit to a storage area, and registers said saved data as alternate data when said writing fails.

10. The storage device of claim 9, wherein said control circuit save the data with the first sector length unit to the storage medium.

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11. The storage device of claim 9, wherein said control circuit further determine whether or not the corresponding all data with

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said first sector length unit is rewritten from a target address with said second sector length unit of write request, execute said save step when all of the data are not rewritten, and register to the storage medium as alternate data, said data with said second 5 sector length unit of a write request when said writing failed, when all of the data is rewritten.

12. The storage device of claim 9, wherein said control circuit stage said data with the first sector length unit to a cache area of said buffer memory from the storage medium.

13. The storage device of claim 9, wherein said control circuit set a valid flag to said save data for said registering.

14. The storage device of claim 9, wherein said control circuit judge whether or not said saving is success, and perform said rewriting when said saving is success.

15. The storage device of claim 9, wherein said control circuit 20 stage said data with the first sector length unit to a cache area of said buffer memory from the storage medium when receive a write command.

16. The storage device of claim 9, wherein said control circuit 25 search a save area when receive a write command from a host, and notify that said saving is not performed when said save area is not found by said searching.

17. The storage device of claim 9, further comprising a head for reading and writing said storage medium.

18. The storage device of claim 9, wherein said control circuit  
5 receive a write command from said host of UNIX OS.

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